

Water-Data Report 2007

02081022 ROANOKE RIVER NEAR OAK CITY, NC

Roanoke Basin
Lower Roanoke Subbasin

LOCATION.--Lat 36°00'49", long 77°12'55" referenced to North American Datum of 1983, Martin County, NC, Hydrologic Unit 03010107, on right bank at bridge on North Carolina Highway 11-42, and 5.2 mi northeast of Oak City.

DRAINAGE AREA.--8,810 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--

DISCHARGE: Occasional discharge measurements, 1968-1985. Continuous record August 2006 to September 2007 (discontinued).

ELEVATION: July 1987 to current year.

GAGE.--Water stage recorder and acoustic velocity meter. Datum of gage is at NGVD of 1929. Satellite telemetry at station.

REMARKS.--Elevation records good. Discharge records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft³/s, January 27, 2007; maximum elevation, 22.07 ft, September 19, 1999; minimum discharge 1,430 ft³/s, September 16, 2007; minimum elevation, 2.27 ft, September 19, 2007.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 21,000 ft³/s, January 27; maximum elevation 20.44 ft, January 24; minimum discharge 1,430 ft³/s, September 16; minimum elevation, 2.27 ft, September 19.

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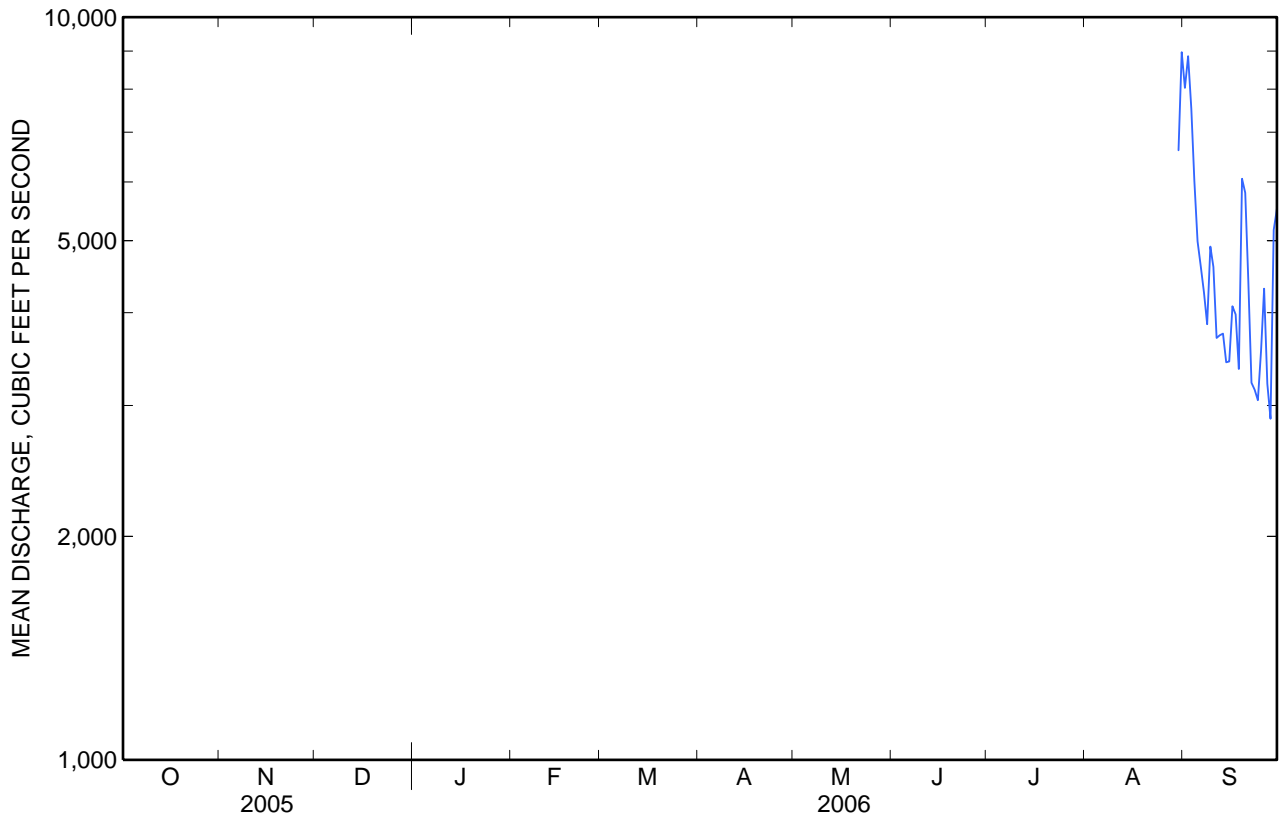
DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	---	---	---	---	---	---	---	---	---	---	---	8,030
2	---	---	---	---	---	---	---	---	---	---	---	8,860
3	---	---	---	---	---	---	---	---	---	---	---	7,530
4	---	---	---	---	---	---	---	---	---	---	---	6,020
5	---	---	---	---	---	---	---	---	---	---	---	4,990
6	---	---	---	---	---	---	---	---	---	---	---	4,620
7	---	---	---	---	---	---	---	---	---	---	---	4,260
8	---	---	---	---	---	---	---	---	---	---	---	3,860
9	---	---	---	---	---	---	---	---	---	---	---	4,910
10	---	---	---	---	---	---	---	---	---	---	---	4,610
11	---	---	---	---	---	---	---	---	---	---	---	3,700
12	---	---	---	---	---	---	---	---	---	---	---	3,730
13	---	---	---	---	---	---	---	---	---	---	---	3,750
14	---	---	---	---	---	---	---	---	---	---	---	3,430
15	---	---	---	---	---	---	---	---	---	---	---	3,440
16	---	---	---	---	---	---	---	---	---	---	---	4,080
17	---	---	---	---	---	---	---	---	---	---	---	3,980
18	---	---	---	---	---	---	---	---	---	---	---	3,360
19	---	---	---	---	---	---	---	---	---	---	---	6,060
20	---	---	---	---	---	---	---	---	---	---	---	5,800
21	---	---	---	---	---	---	---	---	---	---	---	4,430
22	---	---	---	---	---	---	---	---	---	---	---	3,220
23	---	---	---	---	---	---	---	---	---	---	---	3,150
24	---	---	---	---	---	---	---	---	---	---	---	3,050
25	---	---	---	---	---	---	---	---	---	---	---	3,560
26	---	---	---	---	---	---	---	---	---	---	---	4,310
27	---	---	---	---	---	---	---	---	---	---	---	3,210
28	---	---	---	---	---	---	---	---	---	---	---	2,880
29	---	---	---	---	---	---	---	---	---	---	---	5,170
30	---	---	---	---	---	---	---	---	---	---	6,620	5,520
31	---	---	---	---	---	---	---	---	---	---	8,970	---
Mean	---	---	---	---	---	---	---	---	---	---	---	4,584
Max	---	---	---	---	---	---	---	---	---	---	---	8,860
Min	---	---	---	---	---	---	---	---	---	---	---	2,880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2006 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	---	---	---	---	---	---	---	---	---	---	---	4,584
Max	---	---	---	---	---	---	---	---	---	---	---	4,584
(WY)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(2006)
Min	---	---	---	---	---	---	---	---	---	---	---	4,584
(WY)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(---)	(2006)

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued



02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3,860	3,790	15,400	5,870	11,400	e10,500	8,730	9,030	5,540	3,430	3,540	3,030
2	3,130	4,040	15,700	7,420	10,300	e10,000	10,400	7,860	5,360	3,400	3,800	2,750
3	3,560	10,100	16,600	11,600	8,370	e9,500	10,700	7,240	4,240	3,370	4,250	2,720
4	5,330	12,200	17,400	13,700	6,070	e7,000	11,100	7,080	3,520	3,340	4,180	2,610
5	7,870	11,500	18,100	12,900	5,040	e5,500	12,400	6,930	3,180	3,310	3,620	3,460
6	5,630	11,300	18,400	15,700	5,470	e4,800	13,000	6,630	3,040	3,330	3,120	3,310
7	4,490	9,370	18,900	17,200	6,520	e4,400	13,000	6,410	2,960	3,330	2,990	3,110
8	6,510	5,340	19,300	17,900	e6,400	e4,300	11,800	6,250	2,900	3,340	3,410	3,610
9	7,300	4,430	19,500	18,300	e5,550	e4,200	10,900	6,230	2,880	3,380	4,950	3,080
10	8,730	5,580	19,600	18,600	e4,590	e4,000	10,700	6,170	2,870	4,300	7,140	2,410
11	8,630	7,300	19,800	18,600	4,030	e3,400	10,600	6,150	2,870	4,250	5,340	2,210
12	8,770	7,030	19,600	18,700	e3,830	e2,900	10,500	6,150	3,000	3,750	3,800	2,240
13	10,500	7,670	18,600	18,800	e3,800	e2,700	10,600	6,160	2,960	3,520	3,040	2,320
14	11,600	10,600	17,500	18,800	e3,800	2,660	10,200	6,170	3,000	3,420	2,800	2,140
15	13,900	11,400	16,400	18,800	e4,100	2,670	9,240	6,070	2,980	3,380	2,920	2,200
16	14,200	9,150	15,400	18,800	e5,600	2,950	9,330	6,000	2,880	3,420	2,840	2,010
17	13,500	11,700	12,800	18,800	e7,400	6,860	11,400	6,090	2,920	3,420	3,340	e1,900
18	11,900	14,300	12,100	18,800	e9,200	13,400	14,600	6,140	3,100	3,540	3,390	e1,900
19	11,200	15,100	11,300	19,000	e9,600	e15,700	15,800	6,090	4,810	3,210	2,840	e1,700
20	10,800	15,300	10,000	19,000	e9,900	e16,000	16,400	5,920	6,770	2,830	2,630	e1,710
21	9,590	15,100	11,000	19,100	e9,400	e15,700	17,000	5,740	6,270	2,700	2,550	e1,800
22	7,610	15,300	12,000	19,300	e8,600	14,700	17,400	5,720	4,720	2,560	2,550	e1,810
23	6,410	15,700	8,300	19,400	e7,500	13,400	17,300	5,670	3,720	2,490	2,530	e1,890
24	9,290	16,000	5,610	19,300	e7,800	10,100	17,600	5,640	3,340	2,450	3,460	e1,880
25	9,530	16,000	4,570	19,200	e8,400	8,420	16,900	5,600	3,280	2,420	6,240	e1,810
26	8,860	15,800	5,400	19,400	e9,400	7,590	16,000	5,630	3,280	3,420	4,760	e1,800
27	8,220	15,600	7,630	19,400	e10,000	7,400	15,400	5,600	3,300	3,980	3,510	e2,200
28	8,280	15,400	9,980	18,600	e9,900	7,490	14,200	5,620	3,380	3,940	3,590	e2,550
29	5,660	15,200	8,510	17,100	---	7,100	12,500	5,570	3,530	3,330	3,400	e2,100
30	4,110	15,200	6,320	16,200	---	5,720	10,400	5,550	3,510	2,830	3,470	e1,850
31	4,190	---	5,000	13,500	---	5,410	---	5,530	---	3,420	3,640	---
Mean	8,166	11,420	13,440	17,030	7,213	7,628	12,870	6,214	3,670	3,316	3,666	2,337
Max	14,200	16,000	19,800	19,400	11,400	16,000	17,600	9,030	6,770	4,300	7,140	3,610
Min	3,130	3,790	4,570	5,870	3,800	2,660	8,730	5,530	2,870	2,420	2,530	1,700

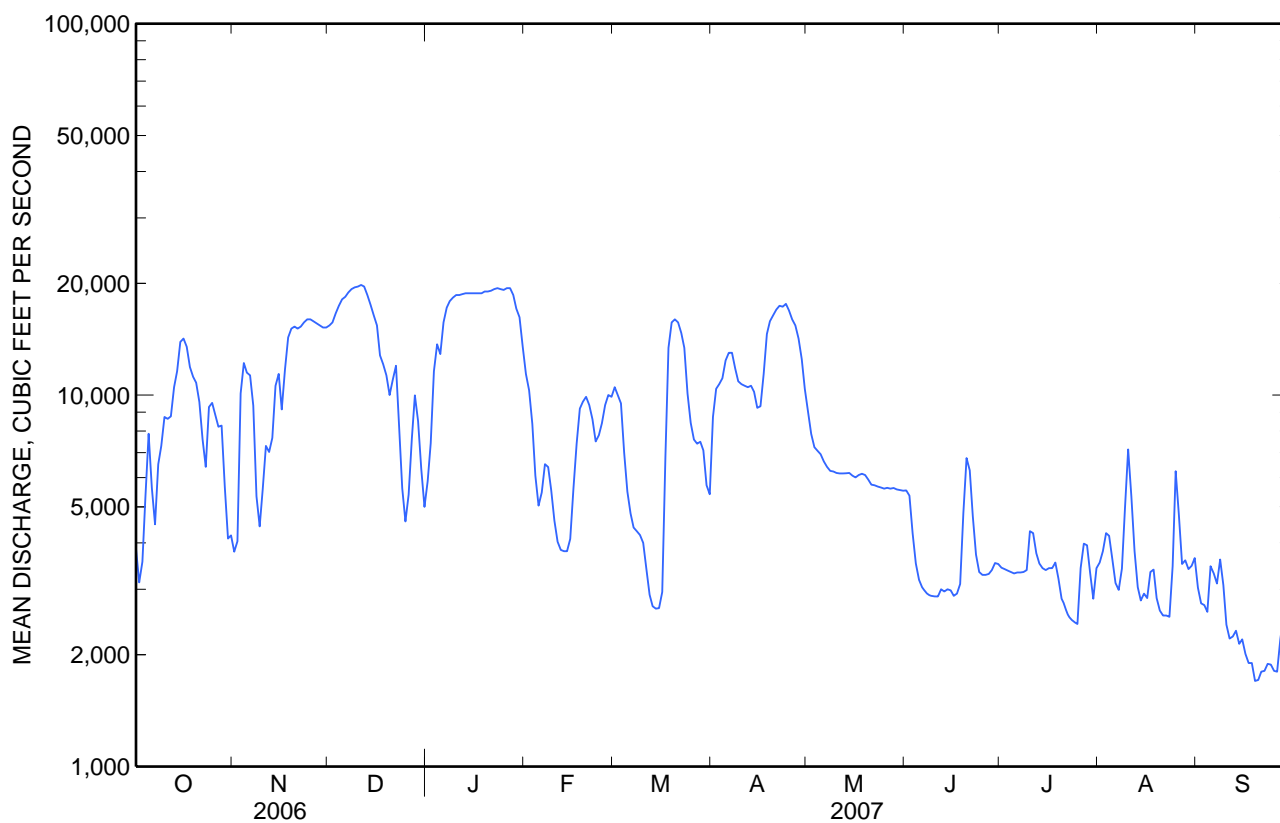
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2006 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	8,166	11,420	13,440	17,030	7,213	7,628	12,870	6,214	3,670	3,316	3,666	3,460
Max	8,166	11,420	13,440	17,030	7,213	7,628	12,870	6,214	3,670	3,316	3,666	4,584
(WY)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2006)
Min	8,166	11,420	13,440	17,030	7,213	7,628	12,870	6,214	3,670	3,316	3,666	2,337
(WY)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)	(2007)

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SUMMARY STATISTICS

	Water Year 2007		Water Years 2006 - 2007	
Annual mean	8,093		8,093	
Highest annual mean			8,093	2007
Lowest annual mean			8,093	2007
Highest daily mean	19,800	Dec 11	19,800	Dec 11, 2006
Lowest daily mean	1,700	Sep 19	1,700	Sep 19, 2007
Annual seven-day minimum	1,800	Sep 19	1,800	Sep 19, 2007
Maximum peak flow	21,000	Jan 27	21,000	Jan 27, 2007
Maximum peak stage	20.44	Jan 24	20.44	Jan 24, 2007
Instantaneous low flow	1,430	Sep 16	1,430	Sep 16, 2007
10 percent exceeds	17,100		17,100	
50 percent exceeds	6,170		6,170	
90 percent exceeds	2,780		2,780	

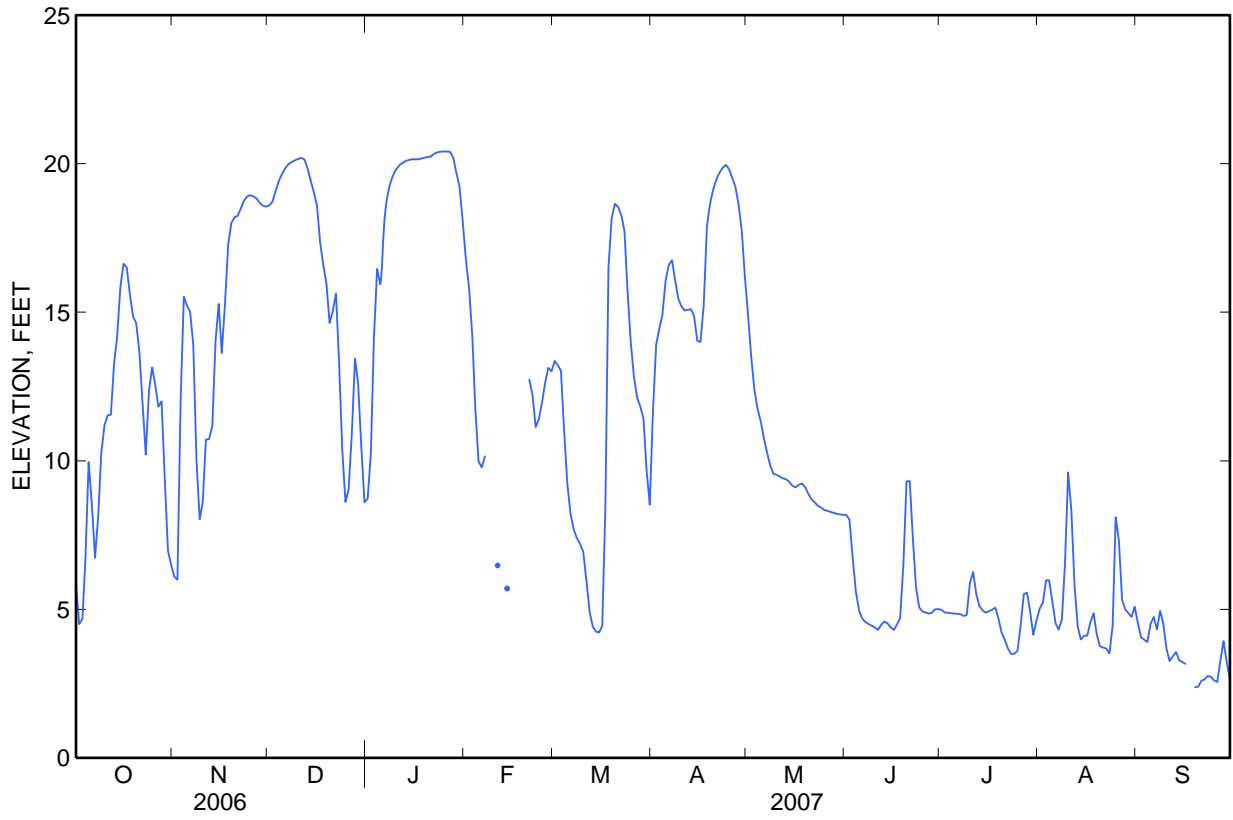


02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

ELEVATION, FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5.85	6.11	18.60	8.73	16.76	13.36	11.67	14.93	8.18	4.99	5.03	4.53
2	4.50	6.00	18.72	10.27	15.80	13.21	13.91	13.51	8.02	4.90	5.23	4.06
3	4.68	12.05	19.09	14.14	14.18	13.03	14.46	12.39	6.76	4.89	5.98	3.98
4	6.71	15.52	19.42	16.46	11.73	10.97	14.91	11.74	5.60	4.87	5.98	3.90
5	9.96	15.23	19.66	15.94	9.98	9.22	16.06	11.32	4.98	4.86	5.27	4.51
6	8.54	15.02	19.85	17.68	9.78	8.21	16.60	10.77	4.72	4.85	4.54	4.75
7	6.74	13.91	19.98	18.73	10.15	7.68	16.75	10.28	4.58	4.84	4.32	4.33
8	8.16	10.03	20.05	19.28	---	7.41	16.06	9.84	4.50	4.78	4.68	4.95
9	10.26	8.03	20.11	19.61	---	7.21	15.47	9.56	4.46	4.81	6.53	4.51
10	11.20	8.60	20.16	19.81	---	6.95	15.20	9.53	4.39	5.89	9.61	3.69
11	11.53	10.72	20.20	19.95	6.48	5.97	15.06	9.47	4.31	6.26	8.33	3.26
12	11.55	10.73	20.15	20.03	---	4.93	15.08	9.41	4.48	5.51	5.78	3.42
13	13.28	11.18	19.87	20.09	---	4.42	15.10	9.38	4.59	5.12	4.42	3.57
14	14.16	14.02	19.45	20.13	5.70	4.26	14.87	9.29	4.53	4.97	3.99	3.29
15	15.83	15.28	19.05	20.15	---	4.22	14.04	9.16	4.39	4.89	4.11	3.23
16	16.63	13.63	18.59	20.15	---	4.45	14.00	9.11	4.31	4.94	4.12	3.17
17	16.52	15.27	17.35	20.15	---	8.54	15.22	9.19	4.49	4.99	4.57	---
18	15.59	17.26	16.61	20.18	---	16.51	17.84	9.24	4.71	5.06	4.87	---
19	14.85	18.01	15.98	20.21	---	18.17	18.64	9.12	6.49	4.70	4.19	2.38
20	14.64	18.20	14.64	20.22	---	18.65	19.12	8.89	9.31	4.22	3.76	2.40
21	13.68	18.25	15.04	20.24	12.74	18.55	19.45	8.71	9.32	3.97	3.72	2.60
22	11.94	18.49	15.63	20.34	12.23	18.27	19.69	8.61	7.42	3.68	3.68	2.64
23	10.21	18.76	13.34	20.38	11.14	17.73	19.86	8.49	5.75	3.50	3.52	2.76
24	12.35	18.90	10.39	20.40	11.41	15.73	19.96	8.43	5.07	3.51	4.45	2.73
25	13.14	18.94	8.62	20.42	11.94	14.02	19.82	8.35	4.93	3.60	8.10	2.61
26	12.57	18.90	9.04	20.41	12.62	12.83	19.54	8.32	4.90	4.46	7.32	2.56
27	11.82	18.83	10.92	20.40	13.13	12.13	19.23	8.28	4.86	5.52	5.33	3.26
28	12.00	18.68	13.44	20.20	13.01	11.83	18.63	8.25	4.88	5.56	5.00	3.93
29	9.36	18.58	12.63	19.70	---	11.42	17.74	8.21	5.00	4.94	4.87	3.23
30	6.97	18.56	10.48	19.23	---	9.69	16.24	8.20	5.01	4.15	4.75	2.65
31	6.51	---	8.60	18.06	---	8.53	---	8.18	---	4.62	5.09	---
Mean	11.02	14.72	16.31	18.76	---	10.91	16.67	9.62	5.50	4.77	5.20	---
Max	16.63	18.94	20.20	20.42	---	18.65	19.96	14.93	9.32	6.26	9.61	---
Min	4.50	6.00	8.60	8.73	---	4.22	11.67	8.18	4.31	3.50	3.52	---

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued



02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to 1973, 1998 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1998 to current year.

pH: March 1998 to current year.

WATER TEMPERATURE: March 1998 to current year.

DISSOLVED OXYGEN: March 1998 to current year.

DISSOLVED OXYGEN, PERCENT SATURATION: March 1998 to current year.

INSTRUMENTATION.--Water-quality monitor with satellite telemetry from March 1998 to current year.

REMARKS.--Station operated to define water-quality characteristics in the Roanoke River Basin below Roanoke Rapids Dam. Partial record site from October 1967 to September 1973. Dissolved oxygen, percent saturation, is computed using a barometric pressure of 760 mm Hg beginning October 1, 2000. Water-quality measurements and samples for water years 2006 to 2008 were collected by the U.S. Geological Survey and the North Carolina Department of Environment and Natural Resources, Division of Water Quality.

COOPERATION.--Station operated in cooperation with North Carolina Department of Environment and Natural Resources (NCDENR), Division of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 5160 microsiemens, March 29, 2003; minimum recorded, 52 microsiemens, September 17, 1999.

pH: Maximum recorded, 8.1 standard units, July 1, 2, 2002; minimum recorded, 6.1 standard units, September 17, 1999, September 20, 21, 2003, June 16, 17, 2006

WATER TEMPERATURE: Maximum recorded, 31.4°C, August 4, 2006; minimum recorded, 2.0°C, January 28, 2004.

DISSOLVED OXYGEN: Maximum recorded, 15.5 mg/L, January 6, 7, 1999; minimum recorded, 2.4 mg/L, September 24, 2003.

DISSOLVED OXYGEN, PERCENT SATURATION: Maximum recorded, 123%, January 6, 7, 1999; minimum recorded, 28%, September 24, 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 154 microsiemens, September 21, 22; minimum recorded, 84 microsiemens, March 19, 20.

pH: Maximum recorded, 7.9 standard units, April 12; minimum recorded, 6.7 standard units, on several days during the year.

WATER TEMPERATURE: Maximum recorded, 30.2°C, August 10; minimum recorded, 4.1°C, February 17.

DISSOLVED OXYGEN: Maximum recorded, 12.6 mg/L, February 8, 17, 20; minimum recorded, 4.8, July 13, August 10.

DISSOLVED OXYGEN, PERCENT SATURATION: Maximum recorded, 101%, February 22, March 1, 2, 27; minimum recorded, 61%, July 13.

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

[Remark codes: <, less than.]

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Sus- pended sedi- ment concen- tration mg/L (80154)
Oct									
16...	1215	Environmental	14,100	8.1	7.8	116	19.5	<2.0	--
Nov									
07...	1330	Environmental	9,320	--	7.4	115	14.4	<1.0	15
Apr									
03...	1600	Environmental	10,400	10.4	7.0	99	14.9	<1.0	85
24...	1430	Environmental	17,900	9.8	7.2	101	15.3	<1.0	--
May									
02...	1530	Environmental	7,260	9.6	6.8	103	20.1	<1.0	31
14...	1330	Environmental	6,030	7.9	7.2	93	19.0	<1.0	--
30...	1615	Environmental	5,390	8.5	7.5	108	25.1	1.3	25
Jun									
13...	1125	Environmental	2,940	7.0	6.9	117	26.5	<1.0	--
26...	1645	Environmental	3,300	7.0	7.3	120	27.0	<1.0	27
Jul									
17...	1145	Environmental	3,590	6.7	6.9	122	28.8	1.2	--
31...	1500	Environmental	3,610	6.9	7.3	131	28.4	<1.0	43
Aug									
13...	1145	Environmental	3,060	6.7	6.4	122	28.7	<1.0	--
Sep									
05...	1045	Environmental	3,760	7.4	7.4	130	27.2	<1.0	37
05...	1100	<i>Replicate</i>	3,760	7.4	7.4	130	27.2	<1.0	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

[Remark codes: <, less than.]

Date	Time	Sample type	Instan- taneous dis- charge, cfs (00061)	Dis- solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif- ic conduc- tance, wat unf µS/cm 25 degC (00095)	Temper- ature, water, deg C (00010)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)	Sus- pended sedi- ment concen- tration mg/L (80154)
Oct									
03...	1545	Environmental	2,010	7.7	7.2	146	24.2	<1.0	82
03...	1550	<i>Replicate</i>	--	7.7	7.2	146	24.2	<1.0	--
17...	1220	Environmental	--	8.4	6.8	146	20.8	<1.0	--
Nov									
06...	0915	Environmental	2,140	9.2	7.2	132	15.2	<1.0	19

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	140	126	132	123	115	121	110	108	109	113	103	108
2	143	131	134	124	115	118	110	109	110	113	100	109
3	149	143	147	126	111	118	111	110	111	110	99	103
4	147	132	142	113	111	112	111	109	110	110	95	105
5	143	128	133	117	111	113	109	108	109	110	105	106
6	138	127	130	119	113	114	109	108	108	111	105	108
7	137	126	129	117	113	114	110	107	109	107	103	105
8	144	130	137	116	112	114	110	108	109	105	101	103
9	132	125	127	117	113	114	110	108	109	103	101	102
10	137	124	128	130	116	126	110	108	109	103	98	101
11	136	124	127	124	113	116	110	108	109	99	98	98
12	134	124	127	119	112	114	109	107	108	99	98	98
13	132	121	125	118	105	111	108	105	106	100	98	99
14	124	121	122	110	101	105	109	105	107	100	98	100
15	121	117	118	110	103	105	110	106	107	100	100	100
16	117	116	117	109	103	105	111	106	108	100	100	100
17	118	116	118	113	100	106	108	106	107	100	100	100
18	118	114	116	100	91	94	112	107	109	100	100	100
19	120	114	115	102	98	101	116	107	110	100	100	100
20	120	114	116	106	102	104	114	108	111	102	100	101
21	118	114	115	108	105	107	121	108	112	101	100	101
22	120	114	116	109	108	109	115	108	111	100	99	100
23	123	114	117	109	107	108	111	108	109	100	98	99
24	124	114	118	107	105	106	116	109	112	98	96	97
25	117	112	113	106	106	106	114	110	112	97	95	96
26	117	112	113	108	106	107	115	107	112	96	94	95
27	118	112	114	108	107	108	107	91	99	95	92	94
28	118	111	114	108	107	108	103	92	98	94	91	93
29	118	112	113	109	108	108	102	96	98	95	90	92
30	114	112	113	109	108	109	103	96	99	94	90	92
31	121	112	118	---	---	---	107	99	102	92	89	91
Month	149	111	123	130	91	110	121	91	108	113	89	100

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	96	90	93	98	92	95	99	95	98	106	103	104
2	97	91	94	97	91	93	95	94	94	108	104	106
3	99	91	95	96	92	94	96	94	94	109	107	108
4	100	93	97	96	93	94	96	94	95	109	104	108
5	104	95	100	100	95	97	94	93	94	109	107	108
6	110	101	107	101	99	101	94	93	94	109	108	108
7	110	96	105	104	101	102	94	93	94	110	109	109
8	---	---	---	107	104	105	95	94	95	111	109	110
9	---	---	---	109	106	107	98	95	97	111	104	110
10	---	---	---	109	108	109	99	97	98	110	108	110
11	116	110	112	113	109	111	100	98	99	112	109	110
12	---	---	---	115	110	113	100	99	100	111	108	110
13	---	---	---	123	115	119	101	99	100	109	108	109
14	122	113	119	125	121	122	101	100	100	110	108	109
15	119	117	118	123	121	123	101	97	100	110	109	110
16	119	109	115	124	121	123	103	100	101	111	108	109
17	117	103	111	123	88	116	102	99	101	109	105	108
18	113	100	105	91	86	89	100	98	99	111	108	109
19	106	99	100	87	84	85	101	100	100	111	109	110
20	106	99	102	85	84	85	102	101	101	111	109	110
21	103	99	101	92	85	88	103	101	102	111	110	111
22	109	99	103	93	86	89	104	102	103	112	109	111
23	108	99	102	88	86	87	104	103	103	112	109	111
24	108	101	104	90	88	89	104	103	103	113	111	112
25	106	98	101	93	90	91	103	102	102	113	109	111
26	105	96	99	95	92	94	102	100	101	112	109	111
27	102	94	97	96	94	94	102	100	101	112	109	111
28	99	94	96	96	93	95	102	101	101	113	109	111
29	---	---	---	96	93	94	104	101	102	113	110	111
30	---	---	---	96	93	94	104	103	103	113	110	112
31	---	---	---	99	95	97	---	---	---	113	110	112
Month	---	---	---	125	84	100	104	93	99	113	103	110

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	113	111	112	119	116	118	129	123	127	127	114	119
2	---	---	---	120	117	118	124	117	121	127	119	123
3	---	---	---	121	118	119	125	118	123	132	124	130
4	---	---	---	121	118	119	121	115	119	131	128	129
5	---	---	---	119	117	118	123	114	118	131	128	129
6	114	111	112	123	118	120	123	117	120	130	124	128
7	114	111	112	122	120	121	127	123	125	125	115	118
8	114	109	113	122	119	120	126	124	125	134	125	131
9	114	109	111	123	119	121	127	121	125	132	116	123
10	119	109	113	125	121	123	124	111	117	132	118	124
11	121	118	119	122	112	119	118	109	112	139	119	131
12	125	119	121	119	109	114	115	110	112	141	138	140
13	126	121	124	125	116	121	127	115	123	142	138	140
14	---	---	---	124	121	123	128	124	126	142	130	139
15	---	---	---	125	121	124	128	126	127	143	129	137
16	---	---	---	126	124	125	128	121	124	143	140	141
17	---	---	---	125	120	123	123	120	121	---	---	---
18	---	---	---	122	118	120	124	121	123	---	---	---
19	---	---	---	121	118	120	122	117	119	144	140	142
20	---	---	---	126	117	122	125	120	123	147	134	145
21	---	---	---	128	125	126	127	122	125	154	146	150
22	---	---	---	130	127	128	125	124	125	154	151	152
23	---	---	---	132	127	130	126	123	125	153	150	151
24	---	---	---	132	130	131	129	122	126	152	149	151
25	---	---	---	133	130	131	124	108	117	151	144	148
26	---	---	---	136	130	133	119	107	110	148	144	146
27	---	---	---	134	117	129	115	107	109	149	144	147
28	118	106	110	128	112	119	124	115	121	150	142	147
29	118	106	112	128	104	117	124	118	122	142	118	125
30	119	116	117	127	114	119	123	113	118	146	118	132
31	---	---	---	130	121	127	127	122	126	---	---	---
Month	---	---	---	136	104	123	129	107	121	---	---	---

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	October			November			December			January		
1	7.2	7.2	7.2	7.1	7.1	7.1	7.2	7.2	7.2	7.0	6.8	6.9
2	7.2	7.2	7.2	7.1	7.1	7.1	7.3	7.2	7.2	7.1	7.0	7.1
3	7.2	7.2	7.2	7.3	7.1	7.2	7.3	7.2	7.3	7.2	7.1	7.2
4	7.3	7.2	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.2	7.2	7.2
5	7.3	7.2	7.2	7.3	7.2	7.2	7.3	7.2	7.3	7.2	7.1	7.1
6	7.2	7.2	7.2	7.3	7.2	7.2	7.3	7.1	7.2	7.3	7.2	7.2
7	7.2	7.1	7.2	7.3	7.2	7.3	7.2	7.2	7.2	7.2	7.2	7.2
8	7.2	7.0	7.1	7.2	7.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2
9	7.1	7.0	7.1	7.2	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.2
10	7.1	7.1	7.1	7.2	7.1	7.1	7.2	7.2	7.2	7.3	7.1	7.2
11	7.2	7.1	7.1	7.3	7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1
12	7.3	7.2	7.2	7.2	7.2	7.2	7.2	7.0	7.1	7.2	7.2	7.2
13	7.3	7.2	7.3	7.2	6.9	7.0	7.0	6.8	6.9	7.2	7.2	7.2
14	7.3	7.3	7.3	7.0	6.9	6.9	6.9	6.8	6.9	7.2	7.2	7.2
15	7.3	7.3	7.3	7.0	7.0	7.0	7.0	6.9	6.9	7.2	7.2	7.2
16	7.4	7.3	7.3	7.0	6.9	7.0	7.1	6.9	7.0	7.2	7.2	7.2
17	7.4	7.2	7.3	7.1	6.9	7.0	6.9	6.8	6.8	7.3	7.2	7.2
18	7.3	7.2	7.2	7.0	6.8	6.9	7.0	6.8	6.9	7.3	7.2	7.3
19	7.2	7.1	7.2	7.1	7.0	7.1	7.0	7.0	7.0	7.3	7.3	7.3
20	7.2	7.2	7.2	7.1	7.1	7.1	7.0	7.0	7.0	7.3	7.3	7.3
21	7.2	7.1	7.2	7.2	7.1	7.1	7.1	7.0	7.1	7.3	7.3	7.3
22	7.2	7.1	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.3	7.3	7.3
23	7.2	7.1	7.1	7.2	7.2	7.2	7.1	7.0	7.0	7.3	7.3	7.3
24	7.2	7.2	7.2	7.2	7.2	7.2	7.0	6.9	6.9	7.3	7.3	7.3
25	7.3	7.2	7.2	7.2	7.2	7.2	6.9	6.8	6.9	7.3	7.3	7.3
26	7.3	7.2	7.3	7.2	7.2	7.2	6.8	6.7	6.8	7.3	7.3	7.3
27	7.3	7.2	7.3	7.2	7.2	7.2	6.7	6.7	6.7	7.3	7.3	7.3
28	7.3	7.2	7.3	7.2	7.1	7.1	6.9	6.7	6.9	7.3	7.0	7.2
29	7.2	7.0	7.1	7.2	7.1	7.2	7.0	6.9	7.0	7.2	7.0	7.1
30	7.0	7.0	7.0	7.2	7.2	7.2	6.9	6.9	6.9	7.2	7.1	7.2
31	7.1	6.9	7.0	---	---	---	6.9	6.8	6.8	7.2	7.0	7.1
Max	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Min	7.0	6.9	7.0	7.0	6.8	6.9	6.7	6.7	6.7	7.0	6.8	6.9

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	February			March			April			May		
1	7.2	7.1	7.1	7.2	7.1	7.1	7.0	6.9	7.0	6.9	6.8	6.8
2	7.2	7.1	7.2	7.1	7.1	7.1	7.0	6.9	7.0	6.8	6.7	6.8
3	7.2	7.2	7.2	7.1	6.9	7.1	7.0	7.0	7.0	6.9	6.7	6.8
4	7.2	7.1	7.2	6.9	6.9	6.9	7.1	7.0	7.0	7.0	6.7	6.8
5	7.1	7.1	7.1	6.9	6.8	6.8	7.2	7.1	7.1	6.9	6.8	6.8
6	7.3	7.1	7.2	6.9	6.7	6.8	7.3	7.2	7.3	6.9	6.8	6.8
7	7.5	7.2	7.3	6.8	6.8	6.8	7.4	7.2	7.3	6.9	6.8	6.9
8	---	---	---	6.9	6.8	6.8	7.5	7.3	7.4	7.0	6.9	6.9
9	---	---	---	6.9	6.8	6.8	7.7	7.5	7.6	7.0	6.9	6.9
10	---	---	---	6.9	6.8	6.9	7.8	7.7	7.8	6.9	6.8	6.9
11	7.5	7.4	7.4	6.9	6.9	6.9	7.8	7.6	7.8	7.0	6.8	6.9
12	---	---	---	6.9	6.9	6.9	7.9	7.6	7.7	7.0	6.8	6.9
13	---	---	---	6.9	6.8	6.8	7.7	7.6	7.6	7.0	6.8	6.9
14	7.4	7.4	7.4	6.9	6.8	6.8	7.7	7.6	7.6	7.0	6.8	6.8
15	7.4	7.4	7.4	6.9	6.8	6.9	7.6	7.4	7.6	7.1	6.8	7.0
16	7.4	7.3	7.3	6.9	6.9	6.9	7.5	7.4	7.4	7.2	7.0	7.1
17	7.4	7.3	7.4	7.0	6.9	7.0	7.5	7.4	7.4	7.2	7.1	7.1
18	7.5	7.4	7.5	7.2	7.0	7.1	7.6	7.5	7.6	7.2	7.0	7.1
19	7.5	7.4	7.4	7.2	7.2	7.2	7.6	7.6	7.6	7.2	7.0	7.1
20	7.5	7.4	7.5	7.3	7.2	7.2	7.6	7.5	7.5	7.2	7.1	7.1
21	7.5	7.3	7.5	7.2	7.0	7.1	7.5	7.4	7.4	7.3	7.1	7.2
22	7.4	7.3	7.3	7.1	7.0	7.0	7.4	7.4	7.4	7.4	7.2	7.3
23	7.4	7.3	7.3	7.1	7.0	7.1	7.4	7.4	7.4	7.5	7.2	7.3
24	7.3	7.2	7.3	7.0	6.9	7.0	7.4	7.2	7.2	7.3	7.2	7.3
25	7.3	7.3	7.3	7.0	6.9	7.0	7.2	7.0	7.0	7.5	7.2	7.2
26	7.3	7.2	7.3	7.0	6.9	7.0	7.0	7.0	7.0	7.5	7.2	7.3
27	7.2	7.2	7.2	7.1	7.0	7.0	7.0	7.0	7.0	7.6	7.2	7.3
28	7.2	7.2	7.2	7.1	7.0	7.0	7.0	6.8	6.8	7.5	7.2	7.3
29	---	---	---	7.0	6.9	7.0	6.8	6.8	6.8	7.5	7.2	7.3
30	---	---	---	6.9	6.9	6.9	6.8	6.7	6.8	7.5	7.2	7.3
31	---	---	---	6.9	6.8	6.8	---	---	---	7.5	7.2	7.3
Max	---	---	---	7.3	7.2	7.2	7.9	7.7	7.8	7.6	7.2	7.3
Min	---	---	---	6.8	6.7	6.8	6.8	6.7	6.8	6.8	6.7	6.8

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Median	Max	Min	Median	Max	Min	Median	Max	Min	Median
	June			July			August			September		
1	7.3	7.2	7.3	6.9	6.8	6.8	7.2	7.0	7.1	7.1	7.0	7.0
2	---	---	---	7.0	6.9	6.9	7.1	7.0	7.1	7.2	7.0	7.1
3	---	---	---	6.9	6.9	6.9	7.1	7.1	7.1	7.2	7.1	7.1
4	---	---	---	7.1	6.9	7.0	7.2	7.0	7.1	7.2	7.1	7.1
5	---	---	---	7.2	7.0	7.1	7.2	7.0	7.1	7.1	7.1	7.1
6	6.9	6.9	6.9	7.2	7.2	7.2	7.2	7.0	7.1	7.1	7.1	7.1
7	7.0	6.9	7.0	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.0	7.1
8	7.0	6.9	7.0	7.2	7.2	7.2	7.2	7.1	7.1	7.2	7.0	7.1
9	6.9	6.8	6.9	7.3	7.2	7.2	7.1	7.0	7.1	7.1	7.0	7.1
10	6.9	6.8	6.9	7.2	7.1	7.2	7.0	6.9	7.0	7.2	7.1	7.1
11	7.0	6.8	6.9	7.1	7.1	7.1	7.0	6.9	7.0	7.2	7.0	7.1
12	7.0	6.9	6.9	7.2	7.1	7.1	7.0	7.0	7.0	7.2	7.1	7.2
13	6.9	6.9	6.9	7.1	7.0	7.0	7.1	7.0	7.0	7.3	7.1	7.2
14	6.9	6.9	6.9	7.2	7.1	7.1	7.2	7.0	7.1	7.2	7.1	7.2
15	7.0	6.9	6.9	7.2	7.2	7.2	7.2	7.1	7.1	7.2	7.1	7.2
16	7.0	6.8	6.9	7.2	7.1	7.2	7.3	7.1	7.2	7.2	7.1	7.2
17	6.9	6.8	6.8	7.2	7.2	7.2	7.2	7.1	7.2	---	---	---
18	6.9	6.8	6.8	7.3	7.2	7.2	7.2	7.1	7.1	---	---	---
19	6.8	6.8	6.8	7.2	7.1	7.2	7.2	7.1	7.1	7.3	7.3	7.3
20	6.8	6.7	6.7	7.2	7.0	7.1	7.2	7.0	7.1	7.3	7.3	7.3
21	6.8	6.7	6.8	7.2	7.0	7.1	7.2	7.0	7.1	7.3	7.3	7.3
22	6.8	6.8	6.8	7.2	7.1	7.1	7.2	7.0	7.0	7.3	7.2	7.3
23	6.8	6.8	6.8	7.3	7.1	7.2	7.2	7.0	7.1	7.3	7.2	7.3
24	6.8	6.7	6.7	7.3	7.1	7.2	7.1	7.0	7.0	7.3	7.3	7.3
25	6.8	6.7	6.8	7.3	7.1	7.2	7.0	6.8	6.9	7.4	7.3	7.3
26	6.8	6.7	6.8	7.2	7.1	7.1	6.9	6.9	6.9	7.5	7.3	7.4
27	6.8	6.8	6.8	7.1	7.0	7.1	7.0	6.9	7.0	7.4	7.3	7.3
28	6.8	6.7	6.8	7.1	7.0	7.1	7.0	6.9	7.0	7.5	7.3	7.3
29	6.8	6.7	6.8	7.1	7.0	7.1	7.0	6.9	7.0	7.5	7.4	7.4
30	6.8	6.8	6.8	7.2	7.0	7.1	7.0	7.0	7.0	7.4	7.3	7.4
31	---	---	---	7.2	7.1	7.1	7.1	7.0	7.0	---	---	---
Max	---	---	---	7.3	7.2	7.2	7.3	7.1	7.2	---	---	---
Min	---	---	---	6.9	6.8	6.8	6.9	6.8	6.9	---	---	---

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	22.8	22.4	22.6	16.5	15.6	16.0	13.6	13.1	13.3	11.0	9.5	10.3
2	23.0	22.2	22.6	16.7	16.1	16.5	13.6	13.2	13.4	11.1	10.3	10.7
3	22.8	21.8	22.3	16.2	15.4	15.8	13.3	12.8	13.0	10.4	9.7	10.0
4	23.4	22.3	22.8	15.4	15.0	15.2	12.8	12.1	12.5	10.6	9.9	10.2
5	23.4	22.9	23.2	15.1	14.3	14.6	12.1	11.4	11.7	10.6	10.5	10.6
6	23.4	22.5	23.1	14.6	14.1	14.4	11.4	11.1	11.2	11.2	10.6	11.0
7	22.5	21.1	21.7	14.7	14.2	14.4	11.2	11.0	11.1	11.3	11.1	11.2
8	21.3	19.5	20.4	15.1	14.2	14.7	11.1	10.6	10.7	11.5	11.3	11.4
9	21.3	19.5	20.8	15.4	15.0	15.2	10.6	9.9	10.2	11.3	10.6	10.9
10	21.1	20.8	20.9	16.0	15.0	15.5	9.9	9.4	9.5	10.6	9.9	10.2
11	21.1	20.9	21.1	15.9	15.5	15.7	9.6	9.2	9.4	9.9	9.1	9.4
12	21.2	20.9	21.0	15.8	15.0	15.6	9.6	9.3	9.4	9.3	8.8	9.0
13	21.1	20.8	20.9	15.0	14.2	14.7	9.4	9.1	9.2	9.8	9.2	9.4
14	20.8	19.9	20.4	14.5	14.0	14.3	9.6	9.2	9.4	10.3	9.7	9.9
15	20.2	19.6	20.0	14.8	14.4	14.6	9.8	9.6	9.7	10.8	10.2	10.4
16	20.1	19.4	19.6	15.0	14.8	14.9	9.8	9.5	9.7	10.8	10.7	10.7
17	19.7	19.4	19.5	15.2	14.6	15.0	9.6	9.4	9.5	10.7	9.8	10.2
18	19.7	19.4	19.5	15.1	14.6	14.8	9.9	9.4	9.6	9.8	9.0	9.3
19	20.3	19.7	20.0	14.6	14.1	14.2	10.1	9.6	9.9	9.0	8.6	8.7
20	20.5	20.2	20.4	14.1	13.6	13.8	10.0	9.6	9.8	8.6	8.3	8.4
21	20.2	19.8	20.0	13.7	13.2	13.4	9.6	9.2	9.4	8.4	8.0	8.2
22	19.8	19.0	19.4	13.2	12.8	13.0	10.0	9.3	9.6	8.0	7.7	7.8
23	19.0	18.1	18.5	12.8	12.2	12.5	10.3	10.0	10.2	7.8	7.7	7.8
24	18.2	17.3	17.7	12.2	11.8	12.0	10.3	10.2	10.2	7.9	7.6	7.7
25	17.8	16.1	17.1	11.9	11.6	11.8	10.8	10.1	10.3	7.8	7.6	7.7
26	16.3	15.6	16.0	12.1	11.6	11.8	11.1	10.8	10.9	7.6	7.1	7.3
27	15.9	15.4	15.6	12.3	11.9	12.1	10.8	10.4	10.6	7.2	6.8	6.9
28	16.2	15.3	15.9	12.4	12.0	12.2	10.4	9.3	9.8	7.0	6.6	6.7
29	16.0	15.8	15.9	12.7	12.3	12.5	9.3	9.1	9.2	6.6	6.5	6.6
30	15.9	15.4	15.7	13.1	12.6	12.8	9.3	8.7	9.0	6.5	6.2	6.4
31	15.8	15.4	15.6	---	---	---	9.5	9.2	9.4	6.4	5.7	5.9
Month	23.4	15.3	19.7	16.7	11.6	14.1	13.6	8.7	10.3	11.5	5.7	9.1

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	5.8	5.4	5.6	7.7	7.2	7.4	14.7	13.5	13.9	19.2	18.0	18.6
2	5.6	5.1	5.4	8.5	7.4	8.0	14.5	13.6	14.1	20.2	18.7	19.4
3	5.8	5.4	5.6	9.2	8.3	8.7	14.8	14.0	14.4	20.5	19.4	20.1
4	6.0	5.6	5.8	9.4	8.9	9.1	15.3	14.7	15.1	20.3	18.8	19.5
5	5.8	5.4	5.7	9.4	8.5	8.9	15.2	14.2	14.6	19.2	18.0	18.5
6	5.4	4.7	5.0	9.4	8.6	9.0	15.0	14.3	14.6	18.8	18.0	18.4
7	5.1	4.5	4.9	9.0	8.2	8.6	14.4	13.3	13.6	18.5	17.8	18.2
8	---	---	---	9.0	8.2	8.6	13.5	13.2	13.4	18.1	17.4	17.7
9	---	---	---	9.0	8.1	8.6	13.4	12.9	13.2	18.6	17.1	17.7
10	---	---	---	9.7	8.5	9.0	12.9	12.7	12.8	19.2	17.6	18.4
11	4.8	4.5	4.7	9.9	9.2	9.6	12.9	12.7	12.8	20.0	18.4	19.2
12	---	---	---	11.1	9.8	10.5	13.3	12.8	13.2	20.4	19.4	19.8
13	---	---	---	12.1	10.4	11.2	14.2	13.2	13.7	19.9	18.8	19.4
14	6.3	5.6	6.0	12.6	11.0	11.7	14.3	13.8	14.1	19.3	18.1	18.8
15	5.8	5.3	5.6	13.4	11.7	12.5	14.3	13.8	14.1	20.1	18.6	19.3
16	5.3	4.9	5.1	12.8	11.8	12.5	14.2	13.7	14.0	21.6	19.3	20.4
17	5.0	4.1	4.6	11.8	10.0	11.1	14.1	13.7	13.9	21.3	20.3	20.7
18	4.8	4.3	4.6	10.0	9.6	9.8	14.2	13.1	13.5	21.1	20.3	20.8
19	4.8	4.6	4.7	9.8	8.9	9.2	13.6	13.2	13.3	20.3	19.6	20.0
20	5.2	4.6	4.9	9.9	9.0	9.3	13.8	13.2	13.5	20.4	19.2	19.8
21	5.7	5.2	5.6	10.0	9.6	9.7	14.0	13.4	13.7	21.6	19.8	20.7
22	7.1	5.7	6.3	10.2	9.8	10.0	14.8	13.7	14.1	22.2	20.7	21.3
23	7.0	6.2	6.5	11.5	10.2	10.7	15.2	14.5	14.8	22.4	20.9	21.6
24	7.2	6.2	6.6	12.3	11.5	12.0	15.8	14.9	15.3	22.2	20.8	21.5
25	7.0	6.3	6.7	13.4	12.2	12.7	16.4	15.6	15.9	22.9	20.8	21.8
26	7.5	6.5	7.0	13.8	12.7	13.2	17.1	16.4	16.9	23.4	21.4	22.4
27	7.2	6.9	7.1	14.2	12.7	13.5	17.4	17.1	17.2	24.0	21.9	23.0
28	7.6	7.1	7.3	14.6	12.4	13.5	17.4	17.1	17.3	24.4	22.6	23.5
29	---	---	---	14.8	13.6	14.2	18.1	17.4	17.8	24.6	22.6	23.6
30	---	---	---	14.4	13.4	13.9	18.5	17.8	18.1	25.6	23.1	24.3
31	---	---	---	14.3	12.9	13.6	---	---	---	25.6	23.9	24.8
Month	---	---	---	14.8	7.2	10.7	18.5	12.7	14.6	25.6	17.1	20.4

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	25.3	23.4	24.3	28.2	27.6	27.9	28.0	27.0	27.5	27.9	26.9	27.4
2	---	---	---	27.9	27.4	27.7	28.5	26.6	27.4	27.7	27.0	27.3
3	---	---	---	27.4	26.5	27.0	28.8	27.8	28.4	27.6	26.4	27.0
4	---	---	---	27.0	26.4	26.7	29.4	27.6	28.4	27.4	26.2	26.8
5	---	---	---	27.6	26.8	27.2	29.3	27.8	28.6	27.8	26.7	27.3
6	25.6	24.3	25.0	27.9	27.2	27.5	29.3	28.6	29.0	28.3	27.3	27.8
7	26.6	24.9	25.8	28.6	27.9	28.2	29.7	28.8	29.2	27.9	27.3	27.6
8	27.7	26.0	26.8	29.0	28.2	28.6	30.0	29.1	29.6	27.7	27.3	27.5
9	28.5	27.0	27.7	29.6	28.7	29.1	30.1	29.2	29.7	27.6	26.6	27.0
10	28.4	27.3	27.8	29.2	28.5	28.8	30.2	29.1	29.6	27.7	26.7	27.2
11	27.9	26.7	27.3	28.8	27.5	28.2	29.3	28.3	28.5	28.1	26.8	27.4
12	27.3	26.3	26.8	28.9	27.8	28.4	28.8	27.8	28.3	28.0	27.2	27.6
13	26.7	25.8	26.3	28.7	27.6	27.9	29.4	28.2	28.7	27.9	27.1	27.5
14	26.0	24.8	25.7	28.2	27.1	27.7	29.4	28.2	28.8	27.2	26.7	26.9
15	24.9	24.0	24.6	28.1	27.4	27.7	29.7	28.5	29.0	26.8	26.0	26.6
16	24.6	23.7	24.1	28.5	27.2	27.8	29.9	28.9	29.4	26.0	24.8	25.3
17	25.5	23.8	24.6	29.0	28.4	28.7	29.5	28.8	29.2	---	---	---
18	26.9	24.9	26.0	29.4	28.5	28.9	29.1	28.7	28.9	---	---	---
19	27.7	26.5	26.9	29.9	28.9	29.4	28.9	27.9	28.4	23.4	22.9	23.1
20	27.0	26.1	26.3	29.9	29.0	29.6	29.3	27.9	28.6	23.1	22.9	23.0
21	26.2	25.3	25.8	29.4	28.6	29.0	30.0	28.6	29.3	23.7	22.9	23.3
22	26.5	25.8	26.1	28.6	27.6	28.2	29.9	28.9	29.3	24.8	23.5	24.1
23	26.8	25.8	26.3	27.8	26.6	27.3	30.0	29.0	29.4	25.7	24.4	25.0
24	26.8	26.4	26.6	28.0	26.5	27.3	29.4	28.6	29.0	26.1	25.3	25.6
25	27.2	26.4	26.9	28.4	26.9	27.7	29.3	28.5	28.8	25.8	25.2	25.5
26	27.1	26.4	26.9	28.1	27.3	27.7	29.1	28.4	28.7	25.8	25.2	25.5
27	27.6	26.9	27.3	28.6	27.1	27.9	29.2	28.4	28.7	25.4	25.1	25.2
28	28.2	27.3	27.8	28.6	27.1	27.8	28.8	28.0	28.5	25.5	24.8	25.1
29	28.2	27.6	27.8	28.3	27.2	27.7	28.4	27.7	28.1	24.9	23.7	24.3
30	28.0	27.4	27.7	28.1	27.4	27.8	28.2	27.4	27.9	23.7	23.1	23.4
31	---	---	---	28.4	27.4	27.9	28.2	27.8	28.0	---	---	---
Month	---	---	---	29.9	26.4	28.0	30.2	26.6	28.7	---	---	---

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	7.0	6.6	6.7	8.5	8.1	8.3	8.9	8.6	8.7	10.2	9.8	10
2	7.0	6.8	6.9	8.4	8.0	8.2	8.9	8.5	8.6	10.2	9.8	9.9
3	7.1	6.8	6.9	8.8	8.2	8.5	8.9	8.6	8.7	10.4	9.8	10.1
4	7.1	6.6	6.9	8.9	8.6	8.7	8.9	8.7	8.8	10.5	9.9	10.2
5	7.0	6.3	6.6	8.8	8.5	8.6	9.1	8.8	8.9	10.2	9.7	9.9
6	6.7	6.6	6.6	9.1	8.6	8.8	9.2	8.9	9.0	10.3	9.8	10
7	6.9	6.6	6.7	9.2	8.7	8.8	9.3	8.9	9.1	10.0	9.7	9.8
8	7.0	6.7	6.9	8.9	8.6	8.8	9.3	8.9	9.1	9.9	9.6	9.7
9	7.0	6.4	6.6	8.7	8.2	8.5	9.7	9.0	9.3	9.9	9.5	9.7
10	7.0	6.5	6.7	8.6	8.2	8.3	9.9	9.4	9.6	10.0	9.6	9.8
11	7.0	6.6	6.7	9.1	8.4	8.7	9.8	9.5	9.7	10.3	10.0	10.1
12	7.2	6.7	6.8	8.8	8.5	8.7	9.8	9.0	9.5	10.3	10.2	10.3
13	7.2	6.8	6.9	8.7	7.9	8.4	9.1	8.6	8.9	10.3	10.1	10.2
14	7.0	6.8	6.9	8.3	7.7	7.9	9.2	8.5	8.8	10.1	10.0	10.0
15	7.1	6.8	7.0	8.3	8.0	8.1	9.4	8.7	9.0	10.1	10.0	10.0
16	7.3	7.0	7.1	8.2	7.7	7.9	9.6	8.7	9.2	10.1	10.0	10.1
17	7.3	6.9	7.1	8.5	7.7	8.1	9.0	8.5	8.7	10.3	10.0	10.1
18	7.0	6.7	6.9	8.2	7.3	7.7	9.6	8.6	9.2	10.5	10.3	10.4
19	7.1	6.7	6.9	8.4	8.2	8.2	9.7	9.3	9.5	10.7	10.5	10.6
20	7.3	6.9	7.1	8.5	8.2	8.3	9.7	9.2	9.5	10.7	10.5	10.6
21	7.2	7.0	7.1	8.7	8.4	8.5	10.2	9.5	9.9	10.8	10.6	10.7
22	7.7	7.0	7.3	9.0	8.6	8.7	10.1	9.7	9.9	10.8	10.7	10.8
23	7.8	7.2	7.5	9.0	8.8	8.9	9.9	9.4	9.7	10.8	10.6	10.6
24	8.0	7.6	7.8	9.2	8.9	9.0	9.6	9.2	9.4	10.7	10.6	10.6
25	8.3	7.7	8.0	9.2	9.0	9.1	9.6	9.2	9.4	10.7	10.6	10.6
26	8.5	8.2	8.4	9.2	8.9	9.0	9.3	8.8	9.0	10.9	10.6	10.8
27	8.8	8.4	8.6	9.1	8.8	8.9	9.2	8.7	8.9	11.1	10.9	11.0
28	8.9	8.3	8.6	9.1	8.7	8.8	9.8	8.8	9.4	11.1	10.4	10.7
29	8.5	8.0	8.2	8.9	8.7	8.8	10.1	9.6	9.8	10.6	10.3	10.5
30	8.1	7.6	7.9	8.9	8.7	8.8	10.2	9.7	9.9	10.9	10.6	10.8
31	8.4	7.6	7.9	---	---	---	10.2	9.7	9.9	10.8	10.6	10.6
Month	8.9	6.3	7.2	9.2	7.3	8.5	10.2	8.5	9.3	11.1	9.5	10.3

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	11.2	10.7	10.9	12.0	11.7	11.9	10.0	9.5	9.7	8.4	7.6	8.0
2	11.5	11.0	11.3	11.8	11.6	11.7	10.1	9.8	9.9	8.2	7.6	7.9
3	11.4	11.2	11.3	11.6	11.1	11.4	10.0	9.7	9.9	8.0	7.3	7.6
4	11.2	11.1	11.1	11.2	11.0	11.1	---	---	---	8.0	7.1	7.5
5	11.4	11.1	11.3	11.0	10.9	11.0	---	---	---	7.9	7.3	7.6
6	12.0	11.4	11.8	11.1	10.8	11.0	---	---	---	8.0	7.5	7.7
7	12.2	11.9	12.0	11.2	11.1	11.1	---	---	---	8.2	7.7	7.9
8	---	---	---	11.2	11.0	11.1	---	---	---	8.5	7.8	8.1
9	---	---	---	11.2	11.1	11.2	---	---	---	8.6	7.9	8.2
10	---	---	---	11.2	11.0	11.1	9.8	9.2	9.5	8.3	7.8	8.0
11	12.4	12.2	12.3	11.2	11.0	11.0	9.8	9.3	9.6	8.2	7.7	7.9
12	---	---	---	11.0	10.5	10.8	9.8	9.2	9.5	8.1	7.5	7.8
13	---	---	---	10.6	10.1	10.3	9.4	9.1	9.3	8.1	7.4	7.7
14	12.2	11.9	12.0	10.2	9.9	10.1	9.6	9.2	9.4	7.9	7.3	7.6
15	11.9	11.8	11.9	10.1	9.8	10	9.6	9.0	9.3	8.1	7.2	7.6
16	12.2	11.8	12.0	10.0	9.8	9.9	9.4	8.8	9.0	8.1	7.5	7.7
17	12.6	12.2	12.4	10.5	9.8	10.0	9.3	8.6	8.8	7.9	7.3	7.6
18	12.5	12.4	12.5	11.0	10.5	10.8	9.5	9.0	9.3	7.7	6.7	7.3
19	12.5	12.4	12.4	11.3	11.0	11.2	9.6	9.1	9.4	7.6	6.7	7.2
20	12.6	12.4	12.4	11.3	11.2	11.2	9.5	9.1	9.3	7.7	7.2	7.4
21	12.4	12.2	12.3	11.2	10.9	11.0	9.5	9.1	9.3	8.0	7.2	7.5
22	12.2	12.0	12.1	11.0	10.8	10.9	9.5	9.2	9.3	8.2	7.4	7.8
23	12.1	11.9	12.0	11.0	10.6	10.8	9.5	9.1	9.2	8.4	7.5	7.9
24	12.1	11.9	12.0	10.7	10.3	10.4	9.4	9.0	9.2	8.0	7.5	7.8
25	12.1	11.9	12.0	10.4	10.1	10.3	9.1	8.2	8.6	8.2	7.3	7.7
26	12.0	11.8	11.9	10.3	10.0	10.1	8.6	8.0	8.3	8.1	7.2	7.6
27	11.8	11.7	11.8	10.3	9.9	10.1	8.5	7.9	8.2	8.2	7.2	7.7
28	11.9	11.8	11.9	10.2	9.9	10.1	8.1	7.4	7.8	7.9	7.1	7.5
29	---	---	---	9.9	9.6	9.8	8.0	7.4	7.7	7.9	6.9	7.4
30	---	---	---	9.8	9.4	9.7	8.0	7.5	7.8	7.7	6.8	7.3
31	---	---	---	9.7	9.5	9.6	---	---	---	7.6	6.7	7.2
Month	---	---	---	12.0	9.4	10.7	---	---	---	8.6	6.7	7.7

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	7.2	6.6	6.9	6.5	6.1	6.3	6.0	5.5	5.8	6.8	6.2	6.5
2	---	---	---	6.6	6.3	6.5	5.9	5.4	5.7	7.1	6.5	6.8
3	---	---	---	6.7	6.2	6.5	5.9	5.4	5.7	7.1	6.6	6.8
4	---	---	---	6.8	6.6	6.7	6.0	5.4	5.6	7.1	6.6	6.8
5	---	---	---	6.8	6.5	6.7	6.1	5.4	5.7	7.0	6.6	6.8
6	6.7	6.4	6.5	6.6	6.3	6.5	5.9	5.4	5.7	6.9	6.3	6.6
7	6.9	6.4	6.7	6.6	6.2	6.4	5.9	5.4	5.7	6.8	6.2	6.5
8	6.8	6.4	6.6	6.5	6.1	6.3	6.3	5.6	5.9	6.6	6.2	6.4
9	6.8	6.4	6.6	6.4	6.0	6.2	6.2	5.3	5.9	6.6	6.1	6.3
10	6.6	6.3	6.4	6.2	5.6	5.9	5.8	4.8	5.3	6.8	6.1	6.4
11	6.7	6.2	6.4	5.8	5.3	5.5	5.3	4.9	5.1	6.7	6.2	6.4
12	6.8	6.4	6.6	5.5	5.2	5.4	5.5	5.0	5.2	6.8	6.2	6.5
13	6.7	6.5	6.6	5.5	4.8	5.2	5.7	5.2	5.4	6.8	6.1	6.4
14	6.7	6.6	6.7	5.6	5.3	5.5	6.0	5.3	5.7	6.6	6.2	6.3
15	7.0	6.6	6.8	5.9	5.5	5.6	5.9	5.4	5.7	7.3	6.1	6.9
16	7.1	6.8	6.9	5.8	5.4	5.6	5.9	5.4	5.6	7.5	6.8	7.1
17	7.3	6.8	7.0	5.7	5.3	5.5	5.6	5.3	5.5	---	---	---
18	7.0	6.7	6.9	5.6	5.3	5.5	5.7	5.2	5.4	---	---	---
19	6.8	6.2	6.6	5.5	5.1	5.4	5.9	5.3	5.5	7.3	6.9	7.1
20	6.5	5.8	6.1	5.4	5.0	5.2	5.9	5.2	5.5	7.3	6.9	7.1
21	6.4	5.8	6.2	5.7	5.0	5.3	6.0	5.4	5.6	7.2	6.9	7.1
22	6.5	6.1	6.3	6.1	5.1	5.7	6.3	5.2	5.8	7.1	6.7	6.9
23	6.5	6.1	6.3	6.4	5.6	6.0	6.7	6.0	6.4	7.0	6.6	6.8
24	6.6	6.4	6.5	6.4	5.8	6.0	6.6	6.2	6.4	6.9	6.6	6.8
25	6.7	6.4	6.6	6.3	5.5	5.9	6.4	5.5	6.0	7.1	6.7	6.9
26	6.8	6.6	6.7	5.9	5.5	5.7	6.1	5.5	5.8	7.4	6.8	7.0
27	6.8	6.4	6.6	5.7	5.2	5.4	6.6	6.0	6.3	7.1	6.7	6.9
28	6.5	6.3	6.4	5.7	5.2	5.4	6.6	6.2	6.4	7.4	6.6	6.9
29	6.4	6.2	6.3	5.8	5.4	5.6	6.7	6.2	6.4	7.4	7.0	7.3
30	6.4	6.0	6.2	5.9	5.3	5.6	6.7	6.3	6.5	7.4	6.9	7.1
31	---	---	---	5.9	5.4	5.7	6.8	6.3	6.6	---	---	---
Month	---	---	---	6.8	4.8	5.8	6.8	4.8	5.8	---	---	---

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	81	76	78	86	83	84	85	82	83	93	86	89
2	82	78	80	86	82	84	85	81	83	93	88	90
3	82	78	80	89	83	86	85	82	83	92	88	90
4	83	77	80	89	86	87	84	82	83	93	89	91
5	83	74	77	88	84	85	84	81	82	92	87	89
6	79	76	78	90	84	86	84	81	82	94	88	91
7	79	75	77	90	85	87	85	81	83	91	88	90
8	78	74	77	88	85	87	85	80	82	91	88	89
9	77	72	74	87	82	85	86	81	83	90	86	88
10	79	73	75	87	82	84	87	83	85	89	86	88
11	79	74	76	92	84	88	86	83	85	90	87	88
12	81	75	77	89	86	88	86	79	83	90	88	89
13	81	76	78	86	77	83	79	75	77	90	88	89
14	78	75	77	81	75	77	81	74	77	90	88	89
15	78	74	77	82	79	80	83	77	79	91	89	90
16	80	76	78	81	76	78	84	77	81	91	90	91
17	80	75	77	85	77	80	79	74	76	91	90	91
18	76	73	75	81	72	76	85	75	81	91	90	91
19	79	74	76	82	80	80	86	82	84	92	90	91
20	81	77	79	82	79	81	86	81	84	92	90	91
21	80	77	78	83	80	82	90	83	86	92	90	91
22	84	77	80	86	82	83	89	86	87	91	90	91
23	83	77	80	85	83	84	88	84	86	91	89	89
24	84	80	82	85	83	84	86	82	84	90	89	89
25	85	81	83	85	83	84	86	82	84	90	89	89
26	87	83	85	85	82	83	84	80	82	91	88	90
27	89	85	87	85	82	83	83	78	80	92	90	91
28	90	84	87	85	81	82	86	79	83	92	85	88
29	86	81	83	84	81	83	88	84	86	87	84	85
30	82	77	80	84	82	83	89	84	86	89	86	88
31	85	76	80	---	---	---	89	85	87	88	85	86
Month	90	72	79	92	72	83	90	74	83	94	84	89

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	90	86	87	101	98	99	97	92	94	91	81	86
2	92	87	90	101	98	99	98	94	96	91	83	87
3	91	89	90	100	97	98	98	96	97	89	80	84
4	90	88	89	98	95	96	---	---	---	89	76	82
5	91	89	90	96	94	95	---	---	---	85	79	81
6	94	90	92	96	93	95	---	---	---	86	79	83
7	96	92	94	97	94	96	---	---	---	88	81	84
8	---	---	---	97	94	95	---	---	---	90	82	86
9	---	---	---	97	94	96	---	---	---	92	82	86
10	---	---	---	99	94	97	93	87	90	90	83	86
11	97	95	96	99	96	97	93	88	91	90	82	86
12	---	---	---	98	95	97	94	88	90	90	82	86
13	---	---	---	96	93	94	91	88	90	89	80	84
14	98	95	97	96	92	94	94	89	91	86	78	82
15	95	93	95	97	92	94	94	88	91	90	78	83
16	96	93	94	94	91	93	92	85	88	92	82	86
17	99	95	96	93	90	91	91	83	86	89	82	85
18	98	96	97	97	92	95	93	86	89	87	74	81
19	97	96	97	99	95	97	93	88	90	84	74	79
20	99	97	97	100	97	98	91	87	89	86	78	82
21	99	97	98	99	96	97	92	87	90	91	79	84
22	101	97	98	98	95	97	94	89	91	94	83	88
23	100	97	98	99	96	97	95	90	92	97	84	90
24	100	97	98	98	96	97	94	89	92	92	84	88
25	100	97	98	100	94	97	92	83	87	96	82	88
26	99	97	98	100	94	97	89	83	86	95	82	88
27	98	96	98	101	95	97	89	82	86	98	82	90
28	100	98	99	100	94	97	85	77	81	95	82	89
29	---	---	---	98	93	95	84	77	82	95	80	88
30	---	---	---	96	90	94	86	79	82	94	80	87
31	---	---	---	95	90	92	---	---	---	93	80	87
Month	---	---	---	101	90	96	---	---	---	98	74	85

02081022 ROANOKE RIVER NEAR OAK CITY, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	87	78	83	83	78	80	77	69	73	86	78	82
2	---	---	---	84	80	82	76	68	72	91	82	86
3	---	---	---	84	78	82	77	69	73	90	83	86
4	---	---	---	86	82	84	78	69	73	89	83	86
5	---	---	---	86	82	84	80	69	74	89	83	86
6	82	77	79	84	80	82	77	70	74	89	80	84
7	86	78	82	86	80	83	78	70	74	87	79	83
8	87	79	83	85	79	82	83	73	78	84	79	82
9	87	81	84	84	78	81	82	70	78	83	76	79
10	85	80	82	81	73	77	76	64	70	86	77	82
11	86	78	81	75	68	71	70	63	66	86	78	82
12	86	80	83	72	66	69	71	64	68	87	79	83
13	84	81	83	70	61	66	75	67	70	87	77	82
14	83	80	82	72	67	70	79	69	74	83	78	80
15	85	80	82	75	70	72	78	70	74	92	76	86
16	85	81	83	74	68	71	78	70	74	92	84	87
17	89	81	85	74	69	71	74	69	72	---	---	---
18	88	83	85	74	69	71	74	68	71	---	---	---
19	87	78	83	73	67	70	77	68	71	85	81	83
20	81	72	76	72	66	68	77	67	72	85	81	83
21	79	72	76	75	65	69	80	70	74	85	81	83
22	81	75	78	79	66	73	83	68	76	85	80	82
23	82	75	78	82	71	76	89	79	84	86	80	83
24	83	80	81	82	72	76	86	81	83	85	81	83
25	84	81	82	81	69	76	84	71	78	88	82	85
26	85	83	83	76	70	73	80	71	75	91	83	86
27	87	81	84	73	66	69	86	78	82	87	82	84
28	84	80	82	74	66	69	86	80	83	90	80	84
29	82	79	80	74	68	71	87	79	83	90	83	87
30	82	76	79	76	67	72	86	80	83	87	80	84
31	---	---	---	75	69	73	88	81	84	---	---	---
Month	---	---	---	86	61	75	89	63	75	---	---	---